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Forest Service
U.S. DEPARTMENT OF AGRICULTURE

FS-1247 | July 2024

NATIONAL SUSTAINABLE OPERATIONS STRATEGY



VISION

THE FOREST SERVICE PRIORITIZES SUSTAINABILITY
AND REDUCING OUR ENVIRONMENTAL IMPACT IN
ALL ASPECTS OF OPERATIONS.

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SUMMARY

Sustainability has always been at the heart of the U.S. Department of Agriculture, Forest Service mission “to sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations.” This sustainability focus is intricately woven into the fabric of all that the agency does, including land management strategies, operational policies, and agency commitments to employees, partners, and the public.

America’s forests and grasslands are undoubtedly affected by climate change. Although Forest Service operations may contribute to the climate crisis, the agency created the National Sustainable Operations Strategy to work to reduce those contributions and shrink the agency’s overall environmental footprint. How the Forest Service manages operations has environmental, social, and economic impacts that extend to the communities served by the agency. Smaller communities near national forests and grasslands are facing a future of shrinking landfill space, water shortages, and rising energy demands. The Forest Service is experiencing significant utility costs increases, which means that less funding is available for deferred maintenance, programmatic work, and other business needs.

To respond to these challenges, the Forest Service created the National Sustainable Operations Strategy. The goals of this strategy focus on reducing agency emissions, shifting consumption habits and purchases, and ensuring that Forest Service employees are supported throughout the process. This strategy demonstrates the agency’s mission-focused commitment to current and future generations with the vision that “the Forest Service prioritizes sustainability and reducing our environmental impact in all aspects of operations.”

Enhanced investments in capacity and infrastructure as well as updates to policies and business practices are required to be successful in this challenge. As an organization, the Forest Service is not on track to meet the goals of the Federal Sustainability Plan, but the agency has the opportunity to better reflect the requirements and policies requiring these actions in operations and management. Everyone in this agency has a role to play and can lead and contribute from their positions. This is a strategy for all employees.

Fire lookout tower. USDA Forest Service photo.



Goal 1: Reduce Greenhouse Gas Emissions.**Goal 2: Reduce Consumption and Shift to Sustainable Products and Services.****Goal 3: Educate and Enable Employees.**

a	Reduce greenhouse gas emissions 65 percent from 2008 baseline by 2030.	Develop and implement a net-zero waste strategy.	Increase capacity for sustainable operations work.
b	Increase use of onsite renewable energy systems by 25 percent by 2035.	Increase use of renewables and rechargeables for fleet and operational equipment (where appropriate).	Expand internal collaboration, external partnerships, and communities of practice.
c	Increase purchases of carbon pollution-free electricity from the grid to 100 percent by 2035.	Increase use of locally sourced wood and biomass for power, heat, and construction (where appropriate).	Engage employees in best practices and new technology adoption through communication, education, and training.
d	Design, renovate, and construct buildings and sites for net-zero emissions and climate resilience.	Increase green acquisitions to 75 percent by 2035.	Recognize employees for leadership in sustainable operations actions.
e	Optimize building footprint and enhanced use of telework and remote work (where appropriate).	Reduce consumption of water in facilities and operations.	—
f	—	Evaluate new technologies and approaches for feasibility, issues, and benefits.	—

Bridget-Teton National Forest employees remove turf and install a water-wise native pollinator garden. USDA Forest Service photo.



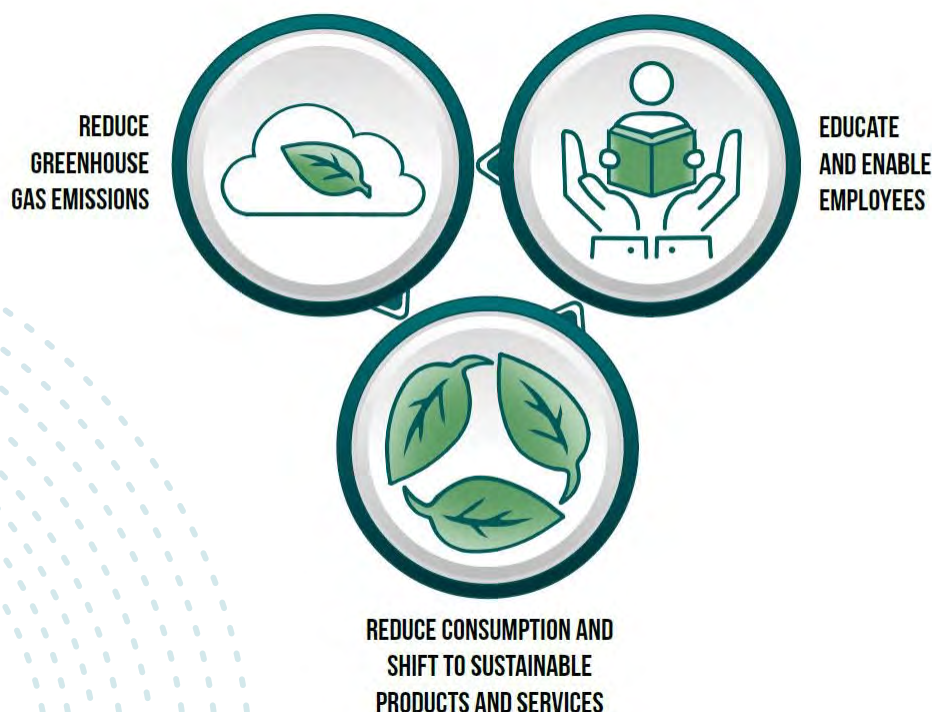
BACKGROUND

Sustainability is at the heart of the U.S. Department of Agriculture (USDA), Forest Service mission “to sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations.” This sustainability focus is intricately woven into the fabric of all that the agency does, including land management strategies, operational policies, and agency commitments to employees, partners, and the public.

Sustainable operations is defined in Forest Service Manual 1313.02 as “an institutional business model that minimizes adverse impacts to the environment resulting from agency operations and individual employee actions and facilitates an expanded and integrated systems approach to operations and asset management.”

Improving the sustainability of agency operations is one way the Forest Service strives to mitigate its contribution to the climate crisis and to address unintended negative environmental impacts to communities. Advancing the sustainability of the agency’s operations is about more than being a good steward of public resources and a good neighbor; it is also about meeting the needs of agency employees. This work is fueled by employee passion and offers an opportunity to improve morale and the work environment. This National Sustainable Operations Strategy, while required by laws and regulations, directly supports and tiers to the Forest Service Strategic Plan and the USDA Strategic Plan. This work complements the work being done through agency land management actions to enhance climate resilience and steward carbon and other ecosystem services on the landscape.

This strategy demonstrates the agency’s mission-focused commitment to current and future generations with the vision that “the Forest Service prioritizes sustainability and reducing our environmental impact in all aspects of operations.” It is driven by three goals, which are interwoven and supportive of each other: reduce greenhouse gas emissions; reduce consumption and shift to sustainable products and services; and educate and enable employees. Each of these goals includes a set of key objectives. Ultimately, this strategy will be supported by a companion implementation plan.



California Conservation Corps prepares fire hoses, the number one waste stream from fire operations, for recycling. USDA Forest Service photo by Judith Downing.



“Improving the sustainability of our operations is one important way the Forest Service is striving to address climate change . . . Together, our combined actions can make a difference and help the Forest Service get to our net-zero goal by 2050.”

CHIEF RANDY MOORE

THE BIG WHY

Improving the sustainability of Forest Service operations is required by the agency's mission and supports agency priorities. In addition, sustainability is expected of the agency by employees and the public, is required by various laws and regulations, and is a sound fiscal strategy.



DRIVER 1**ADDRESSES FOREST SERVICE PRIORITIES**

The agency has committed to reducing the risk of wildfire while addressing the critical issue of climate change. By identifying and applying green technologies, developing new markets (e.g., using byproducts from restoration treatment to create products like cross-laminated timber for use in green construction and in providing power and heat to facilities), and empowering employees and partners to identify new green solutions, the Forest Service can lead by example. This work complements the agency's efforts to manage its landscapes for climate resilience, carbon stewardship, and the provision of ecosystem services to the public.

DRIVER 2**EXPECTED BY EMPLOYEES AND THE PUBLIC**

A 2023 Pew Center survey indicated that two-thirds of adults in the United States support prioritizing the development of renewable energy over fossil fuels. Fifty-six percent of survey respondents said that the Federal Government should be doing more to reduce the effects of global climate change. In addition, public input into the agency's planning processes indicates a strong interest in ensuring that climate change is addressed. Employee engagements and surveys have demonstrated that employees want the agency to pursue more sustainable approaches to doing business; employees feel this is the right thing to do and some have even called it a moral imperative. Employees indicated this work is directly tied to mission success and the agency's ability to address climate change.

DRIVER 3**SUPPORTS FISCAL RESPONSIBILITY**

Energy costs are trending upwards at a significant rate, outpacing planned budgets. From fiscal year (FY) 2021 to FY 2023, energy costs from facilities owned by the Forest Service increased by 30 percent, or nearly \$8.6 million. This includes utilities such as electricity, heating fuel oil, and propane. Energy and water conservation measures, combined with reduced consumption, can help the agency meet climate and sustainability goals and reduce long-term costs. Increasing investments in on-site renewables also helps buffer against price volatility in the marketplace, while providing the agency with reliable electricity in support of mission-critical functions.

DRIVER 4**REQUIRED BY LAWS AND POLICIES**

In 2021, President Biden issued Executive Order 14057: Catalyzing Clean Energy Industry and Jobs Through Federal Sustainability, which challenged the Federal Government to lead by example and move to net-zero operations by 2050. The Energy Independence and Security Act, Energy Policy Act, and the Federal Acquisition Regulation are other legal driver examples of Federal sustainability efforts. In addition, a major focus of the Inflation Reduction Act involves stimulating the green economy by provisioning States, municipalities, and industry with funds to match the Federal commitment of achieving net-zero emissions. These comprise only a subset of Federal policies requiring this work. The Forest Service's Climate Adaptation Plan specifically identifies the need to increase agency capacity in operations and infrastructure to address greenhouse gas mitigation and adaptation needs.

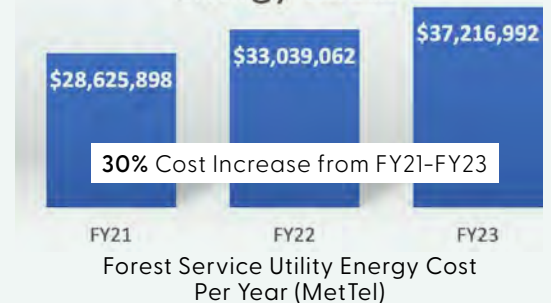
**We asked employees
"to what extent do you think
it's important the Forest
Service makes its operations
more sustainable?"**



**Employees rated it
4.59 out of 5,
or extremely important.**

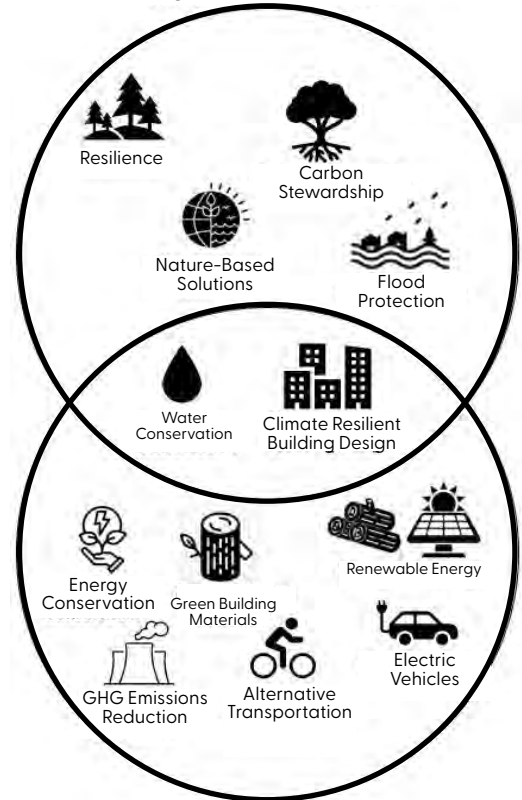
**Why Employees Think a
Sustainable Operations
Strategy Is Important:**

1. To meet public expectations
2. To lead by example
3. To be fiscally responsible

Energy Costs

ADAPTION

Changing how we think and manage to adjust for climate change and build resilience.

**MITIGATION**

Changing how we act to minimize our contributions to the causes of climate change.

Each year the Forest Service encourages participants to use natural, recyclable, or repurposed materials to decorate the U.S. Capitol Christmas Tree. USDA Forest Service photo by Tanya E. Flores.

THE BIG WHO

The Forest Service has fostered and built a broad coalition of engineers, energy managers, fleet and facilities staff, climate change coordinators, sustainable operations champions, and many others, to accomplish this ambitious set of sustainability goals and requirements. Together, in an agencywide approach, the Forest Service is focused on moving toward net-zero emissions and its pledge to become a climate-positive agency. The agency is working to enhance and build partnerships to achieve these goals. While employees from all levels of the agency will help implement this strategy, leadership will provide fundamental direction and support for its success. Washington Office Sustainable Operations staff will monitor agency progress of the strategy.

THE BIG HOW

The National Sustainable Operations Strategy outlines broad intentions of sustainable operations. Although all of the goals and objectives are feasible and can be accomplished, capacity and investment capabilities will be the primary limiting factors in determining the pace of accomplishment. Because Forest Service employee interest is high and employees are mission-driven and passionate, their collective involvement in the strategy's efforts can further boost morale and lead to lasting improvements in the work environment. The agency's commitment to the efficient use of taxpayers' dollars is demonstrated through investments in energy and water conservation as well as waste reduction strategies, which result in long-term cost savings. A sustainable operations action implementation plan containing specific information on how the agency can deliver results on this strategy will be prepared as a companion document.



Bottles and cans saved for
recycling on the Taylor Creek and
Klondike Fires, Rogue-Siskiyou
National Forest, OR, 2018. USDA
Forest Service photo by Kari Greer.



VISION

The Forest Service prioritizes sustainability and reducing our environmental impact in all aspects of operations.

This vision aims to inspire and integrate sustainable operations in every level of the Forest Service in support of the agency's mission. This strategy establishes the holistic approach that is inclusive of ongoing and future operations and places employees at the center, ensuring they are supported and have adequate resources for success.

VALUES

The agency's core values of service, interdependence, conservation, diversity, and safety guide all aspects of Forest Service work, including sustainable operations efforts. Through employee engagement, the strategy's core team identified a set of additional values that build upon agency core values and reflect the guiding principles for the National Sustainable Operations Strategy, providing a compass for action and the foundation for implementation. The employee-informed strategy guiding values are IINSPIRE: impactful, inspirational, scalable, practical, inclusive, and responsible (see Appendix 1 for more details).

Woodsy Owl, Forest Service staff, and supporters help pick up trash in Accotink Park, VA. USDA Forest Service photo by Cecilio Ricardo.



STRATEGIC GOALS AND OBJECTIVES

This strategy is built to inspire action and is intended to be practical and achievable. It will require direction, investment, and capacity building. Some of these objectives are existing actions that can be built upon for greater success. Others are new actions, which may involve taking risks and providing the agency with an opportunity to embrace its learning organization philosophy. As the agency continues to evolve to meet the needs of today and plan for tomorrow, considering sustainability in every decision will be essential. The goals and associated objectives are described in detail in the following sections.

GOAL 1

REDUCE GREENHOUSE GAS EMISSIONS

In FY 2023, 38 percent of Forest Service operational emissions came from fleet vehicles. Switching more vehicles to electric can help reduce this number. As of FY 2023, only 0.19 percent (35 vehicles) in the Forest Service fleet are electric. USDA Forest Service photo.



The Forest Service intends to reduce greenhouse gas (GHG) emissions, increase renewable and clean energy use, and improve the efficiency of agency infrastructure. This includes decarbonizing the agency's built environment, optimizing its building footprint, and focusing on net-zero emissions and climate resilience as the agency designs, renovates, and constructs new buildings.

Greenhouse gas emissions accelerate global temperature rise and the effects of climate change, leading to impacts such as increased wildfire risk, drought, and flooding. These impacts challenge the agency's ability to sustain the health and productivity of national forests and grasslands. The effects of climate change are being seen and felt across the country and not only affect ecosystem functions, biodiversity, and natural resources, but also pose a risk to human life and are financially costly. In addition, climate change disproportionately impacts underserved communities, making mitigation through reduced emissions critical to agency values of inclusivity and environmental justice.

Reducing emissions and decarbonizing agency operations is necessary for long-term sustainability as well as for slowing the rate of global warming and other associated climate change impacts facing future generations. This strategy seeks to reduce environmental impacts in all aspects of the agency's operations. This includes emissions related to electricity consumption, daily commutes, business travel, and buildings and sites. The agency's goal of limiting emissions also highlights its values of being a role model and acting responsibly, showcasing the commitment to leading the charge in reducing agency contributions to climate change.

Executive Order 14057 sets goals for the Federal Government to achieve net-zero operations by 2050. This includes a 100 percent carbon pollution-free electricity target by 2035 and a 65 percent reduction in GHG emissions from 2008 baseline values. This goal also aligns with the USDA Strategic Plan, with objectives including "Reduce Greenhouse Gas Emissions," "Promote Building Resilience to Climate Change," "Expand Renewable Energy," and utilization of "The Guiding Principles for Sustainable Federal Buildings."

Practical challenges do exist for implementation of this goal, including:

- Secure the upfront investments needed to retrofit buildings with energy and water conservation measures and to install additional renewable energy systems.
- Add capacity, either permanently or as a strike team of engineers and facilities leads, to conduct required audits and oversee necessary contracts.
- Shift agency culture away from reliance on fossil fuels.

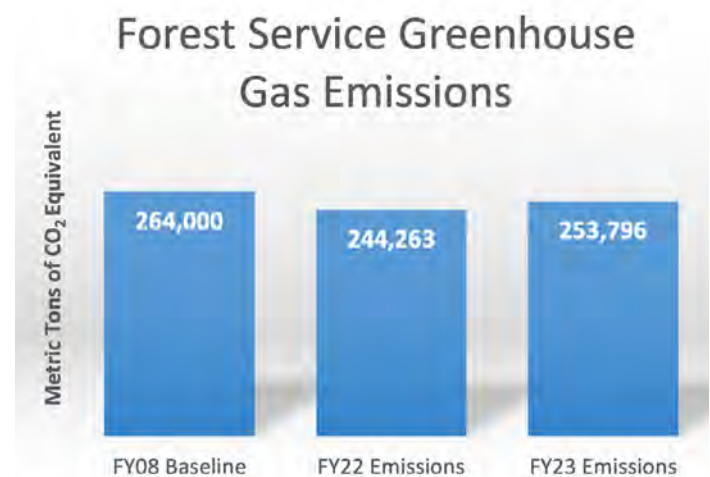
With global support to limit global warming, the decreasing costs of renewable energies, and technology advancements, it is becoming increasingly feasible and economical to limit agency emissions and decarbonize. More utility vendors are offering carbon pollution-free electricity through affordable green tariffs. Because motivation for this work is high, the agency's goal to reduce GHG emissions is becoming more and more achievable.

OBJECTIVE 1

REDUCE GREENHOUSE GAS EMISSIONS 65 PERCENT FROM 2008 BASELINE BY 2030

The agency's target of a 65 percent reduction in GHG emissions aligns directly with Federal requirements. This provides a clear and measurable amount by which the agency will reduce its emissions and enables the agency to track progress and incentivize implementation to meet this goal. As of fiscal year (FY) 2023, the Forest Service has only reduced emissions by 3.9 percent from the 2008 baseline. If the agency is to meet the target 65 percent reduction by 2030, it will need to focus efforts and be proactive in actions to reduce emissions.

Decarbonizing agency operations and moving toward net-zero emissions will come with challenges, since the agency has long been reliant on fossil fuel sources to power buildings and drive fleet vehicles. However, as climate change impacts intensify, leadership support and technological advancements aid transition efforts. Accomplishing this goal will help the Nation limit global warming and mitigate catastrophic impacts from climate change. As stated in the [Fifth National Climate Change Assessment](#), "with each additional increment of warming, the consequences of climate change increase. The faster and further the world cuts greenhouse gas emissions, the more future warming will be avoided." Investment and technical support will be necessary to begin the significant work of reducing future emissions.



Forest Service operational (e.g., facilities, infrastructure, fleet, aviation) greenhouse gas emissions as reported in the Annual Energy Data Management Report.

OBJECTIVE 2

INCREASE USE OF ONSITE RENEWABLE ENERGY SYSTEMS BY 25 PERCENT BY 2035

Renewable sources of energy will be critical to meet the goal of reducing GHG emissions from agency operations. By transitioning from fossil fuel energy sources to renewable sources such as wind, solar, and bioenergy, the agency can reduce the amount of carbon being released into the atmosphere and improve air quality. By working to increase renewable energy throughout the agency, this objective also ties to the USDA Strategic Plan Goal 1.

Renewable energy sources are becoming an increasingly available and cost-effective option. Zero and low carbon energy technology costs are decreasing, and solar costs have declined in the last decade. Switching to renewable sources of energy offers energy security by ensuring a reliable source of energy will be available for future generations while allowing the agency to maintain mission-critical operations when the grid is disabled. However, equipping mission-critical facilities with solar power will require significant investment. The Forest Service currently generates about 5 percent of its total electricity from renewable energy systems. With Energy Savings Performance Contracts, more solar photovoltaics are being installed, but not at a rate that will allow us to meet this objective. Instead, some Forest Service sites continue to maintain biomass heating units while others explore wind power. All efforts help reduce the agency's reliance on fossil fuels and support this objective.



Off-grid solar photovoltaic system with battery backup at the Frenchman Work Center on the Plumas National Forest, CA. USDA Forest Service photo.

OBJECTIVE 3

INCREASE PURCHASES OF CARBON POLLUTION-FREE ELECTRICITY FROM THE GRID TO 100 PERCENT BY 2035

The Forest Service will expand carbon pollution-free electricity (CFE) purchases by creating and leveraging partnerships with utilities, other Federal agencies, and the private sector. Executive Order 14057 defines CFE as electrical energy that is produced from resources that generate no carbon emissions, including marine energy, solar, wind, hydrokinetic (including tidal, wave, current, and thermal), geothermal, hydroelectric, nuclear, renewably sourced hydrogen, and electrical energy generation from fossil resources to the extent there is active capture and storage of carbon dioxide emissions meeting requirements set by the Environmental Protection Agency (EPA). With nearly 7,000 electricity accounts from more than 450 different electricity providers, the Forest Service is poised to influence the market with demand signals for additional green energy. In FY 2022,

the Forest Service was able to procure approximately 45 percent of total grid-supplied electricity as carbon pollution-free. A new interagency agreement with Entergy Arkansas was signed in 2023, committing the Forest Service to procuring 100 percent CFE from their offerings. Similar negotiations are underway with other utility providers.

Powering agency buildings with CFE instead of traditional fossil fuel electricity reduces GHG emissions and related air pollution. Challenges to this transition include the growing electrical load demands at many facilities and the associated cost. Procuring CFE comes at an additional cost initially, usually as a green tariff, and therefore the agency will need to plan for higher electricity rates to meet this target. As market demand increases and renewable resource technology continues to improve, prices will likely decrease and eventually drop below the current price of fossil fuels. Another challenge may come from the need to create individual contracts or agreements with utility providers, creating an additional strain on business operations staff.

OBJECTIVE 4

DESIGN, RENOVATE, AND CONSTRUCT BUILDINGS AND SITES FOR NET-ZERO EMISSIONS AND CLIMATE RESILIENCE

Sustainable site and building designs will help the Forest Service reduce the adverse effects of climate change and reduce long-term costs while providing healthy and pleasant workspaces for employees. The Forest Service Climate Adaptation Plan identifies the need for consideration of climate vulnerability to in building siting and design. The Council on Environmental Quality requires the use of the Guiding Principles for Sustainable Federal Buildings. In addition, the Forest Service has internal guidance to support enhanced sustainability of designs, including certification standards for new buildings set out in Chapter 70 of the Forest Service Handbook as well as guidelines such as the Sustainable Site Design Guide. Commitment to incorporating design, construction, maintenance, and operation of facilities in an environmentally responsible manner will minimize the environmental impacts of buildings in the agency's portfolio.

Challenges exist in transitioning to net-zero buildings and sites, such as costs, design complexity, construction experience, and material availability. Through the National Asset Management Program, the Forest Service can evaluate proposals based on climate and sustainability criteria. Energy savings performance contracts and direct investment are pathways to complete deep energy retrofits as well as energy and water conservation upgrades for existing facilities. Asset prioritization ensures that investments are targeted at buildings and sites the agency plans to continue to own and maintain. Efforts are underway to benchmark all buildings owned by the Forest Service to understand their energy performance, which will provide another data point for investment decision making. New construction and new leases are bound by sustainability requirements and clauses to move all Federal facilities toward net-zero emissions.

OBJECTIVE 5**OPTIMIZE FOREST SERVICE BUILDING FOOTPRINT AND ENHANCED USE OF TELEWORK AND REMOTE WORK (WHERE APPROPRIATE)**

Forest Service employees work in many buildings across the country, including offices owned by the Forest Service, leased space, co-locations with partners, and virtual or remote locations. The environmental footprint of work locations is driven by water and energy use, waste creation, and emissions from commuting. In the United States, buildings contribute to just under one-third of total emissions. According to the FY 2022 Annual Energy Data Management Report, Forest Service buildings contribute to 49 percent of operational business operations.

This objective is aligned with the goal of “a net-zero emissions building portfolio by 2045, including a 50 percent emissions reduction by 2032” in Executive Order 14057. Buildings are often maintained, heated, and cooled the same for 1 employee as they would be for 100 employees. Optimizing the agency’s building footprint will not only save money but will also result

in lower resource consumption and emissions. Examples include reducing the agency’s overall footprint by decommissioning old buildings, letting go of expensive underutilized leases and moving employees in those areas to remote work or enhanced telework, consolidating locations or moving into different facilities, and co-locating with partners or other agencies. This objective can include practices such as hoteling, in which employees who do not go into the office every day coordinate their use of office and desk space. Expanding telework and remote options where appropriate is aligned with the USDA Strategic Plan, which states that “we will build on best practices for a hybrid work environment and continue to reevaluate the future of work at USDA.”

Challenges associated with this objective include the complexity of relinquishing buildings from a political or historical standpoint, terminating existing leases before their life cycle ends, and potential management and performance concerns around telework and remote work employees. Addressing the agency’s building portfolio and identifying ways to reduce footprints and consumption will be critical to meeting the goal of emissions reduction.

In 2022, the Nez Perce–Clearwater National Forest Supervisor’s Office was constructed to minimize the office environmental footprint. New construction of this building utilized mass timber building technology including cross-laminated timber. The centralization of employee offices is estimated to produce an annual \$1.8 million dollars in savings. USDA Forest Service photo.

A 2023 study found that remote workers can create a 54 percent lower carbon footprint. The study also found that greenhouse gas savings from telework and remote work begin to accrue with just 2 or more days per week working at home.



GOAL 2

REDUCE CONSUMPTION AND SHIFT TO SUSTAINABLE PRODUCTS AND SERVICES

A Job Corps camp crew receives training on solar light tower operations. USDA Forest Service photo by Kelly Jaramillo.



By shifting toward greener purchases that originate from more local and renewable sources, the agency creates less waste. Excess waste and outdated technologies lead to economic inefficiencies and contribute to greenhouse gas (GHG) emissions, the impacts of which are often unevenly distributed. The Forest Service intends to demonstrate responsibility by ensuring its strategies for technological innovation and waste reduction are thoughtfully produced. Shifting to sustainable alternatives, where possible, will also bring long-term financial benefits to the agency. Elements from this goal can be applied as the agency implements the Wildfire Crisis Strategy, the Climate Adaptation Plan, the Great American Outdoors Act, Reimagine Recreation, the Equity Action Plan, and more.

The agency will need to consider developing new policies, guidance, and criteria to be successful in reducing consumables and shifting to green purchases. These are time-consuming processes; some policy revisions may take years. This presents a challenge for the agency, which needs action and guidance now. These actions influence general procurement, space acquisition, leasing, construction, renovation projects, and more. Because the Forest Service is the largest purchaser of goods and services in USDA, this would be a significant and incredibly impactful action for the agency.

Incredible progress is being made in the green technology industry through advancements in battery capacity and investments in infrastructure. Conditions are conducive to a large-scale shift to sustainable alternatives. This achievable goal will generate a significant reduction in the agency's overall environmental footprint while making positive contributions toward the Justice40 initiative, invigorating the green economy, and supporting small businesses.



The Greening Fire Program implements sustainable operations best practices on fire incidents, such as offering reusable water bottle water filling stations. USDA Forest Service photo.

OBJECTIVE 1

DEVELOP AND IMPLEMENT A NET-ZERO WASTE STRATEGY

Reducing, reusing, and recovering waste streams is critical in transitioning to an agency with a net-zero waste strategy. With more than 30,000 employees and thousands of physical offices, visitor centers, and recreation sites across the country, the Forest Service generates tremendous amounts of waste. Waste transport and processes used to decompose waste release a significant amount of GHGs. As community landfills fill up across the United States, waste disposal has become an important environmental justice issue.

The Forest Service's net-zero waste strategy demonstrates a commitment to sustainability by moving toward concepts such as circularity; in the circular economy model, goods are designed to be less resource intensive, kept in circulation longer, and repurposed after their first use. This objective seeks to significantly decrease the procurement and consumption of single-use plastics, to increase the use of rechargeables, and to increase recycling and composting efforts. Combined, these efforts will help reduce the amount of the agency's waste that is sent to landfill. This effort also addresses the goals set through Executive Order 14057 Section 207: Reducing Waste and Pollution.

The agency's transition to net-zero waste requires thinking about not only what it buys and uses, but also how it disposes of existing materials. Some challenges exist in this transition. The use of salvaged and recycled materials in building renovation and construction can be time-intensive and costly but can preserve heritage values and save money in the long run. Electronics can be expensive to repair; often, it is more cost-effective to replace them, which creates e-waste, such as batteries, that generally requires special disposal strategies and additional costs. Recycling is not always available in rural or remote locations. In addition to helping build support for recycling services in rural communities, the Forest Service can reduce what goes to landfill by considering the life cycle of procured goods. Composting and recycling, especially on fire incidents, provides the agency with a controlled situation to minimize impacts on local community landfills and the environment. Agency success hinges on a balance between feasibility, cost, and efforts with the greatest impact.

OBJECTIVE 2

INCREASE USE OF RENEWABLES AND RECHARGEABLES FOR FLEET AND OPERATIONAL EQUIPMENT (WHERE APPROPRIATE)

The United States is in the process of investing in electric vehicles and associated infrastructure. The Inflation Reduction Act and the Bipartisan Infrastructure Law provided significant funding to advance electrification efforts. Executive Order 14057 requires the Federal Government to transition all fleet acquisitions to zero-emission vehicles by 2035.

Some challenges remain despite significant national momentum behind this objective. Supply chain delays affect the agency's ability to purchase electric vehicles and supporting equipment. Additional studies are needed to inform the performance of zero-emission vehicles for range, payload, conditions during use (e.g., cold, heat), and use type (e.g., fire, long-range field studies). The electric vehicle (EV) charging network in rural and remote



Rechargeable radios reduce e-waste from batteries; these radios can be charged using solar power or electricity. USDA Forest Service photo.

areas does not yet exist, limiting adoption. The agency is already working to address this by deploying telematics—technology that helps track vehicle performance and behaviors—to understand fleet use and determine which vehicles are best suited for transition to electric. Internal teams are also scoping best practices, policies, and guidance needed for optimal placement of electric vehicle charging stations at Forest Service sites. The agency is working with partners, utilities, industry, and other agencies to share resources and develop strategies.

In addition, the Forest Service is actively evaluating what equipment can be transitioned to rechargeable electric and conducting pilots and studies to ensure this equipment meets mission needs and safety requirements. This includes electric bicycles, chainsaws, blowers, mowers, tractors, and rechargeable batteries for radios and other equipment. Life cycle disposal concerns and proper recycling processes exist for all electric equipment. As the marketplace evolves and innovation, new technology, and research on these issues progress, there are ways to overcome the associated challenges. Ultimately, the Forest Service will establish sustainability best practices and help educate employees on the viability of zero-emission tools and equipment to conduct safe, effective work that meets this objective.

OBJECTIVE 3 INCREASE USE OF LOCALLY SOURCED WOOD AND BIOMASS FOR POWER, HEAT, AND CONSTRUCTION (WHERE AVAILABLE)

Utilizing locally produced wood and woody biomass contributes to economic sustainability for local communities and provides renewable products to the market. Valuable supply chains for forest restoration treatment material are provided by leveraging new wood innovation technologies, such as mass timber, biochar, and wood heat and power applications. This is an area of rapid technological development, innovation, and collaboration. Wood provides a renewable, biogenic alternative to fossil fuel and mineral-based products. In addition, biodiesel and cellulosic ethanol can provide alternatives for power for equipment that cannot be electrified. The Forest Service can demonstrate by example and showcase the use of local, innovative wood products

technologies in building and site construction and renovation projects. This objective contributes to the health and condition of the Nation's forests, supporting the Wildfire Crisis Strategy and the goals of the Inflation Reduction Act, Bipartisan Infrastructure Law, and USDA Secretarial Memo 1077-004. This objective helps the agency create jobs in rural and underserved communities while facilitating adoption of new wood biomass technologies that reduce dependence on fossil fuels.

Challenges exist around biomass energy, as current Federal definitions do not include wood biomass as a qualified source of carbon pollution-free electricity. Public policy dialogues are exploring life cycle emissions of wood biomass energy, particulate matter emissions, and the need for designating sustainable supply chains.

OBJECTIVE 4 INCREASE GREEN PURCHASES TO 75 PERCENT BY 2035

By obtaining more environmentally friendly and energy-efficient products and services (e.g., equipment, lighting, solar photovoltaic systems, pest control, and custodial services), the Forest Service can reduce costs, support small businesses, and reduce negative impacts on the environment and communities. Within USDA, the Forest Service is the largest purchaser of goods and services and has the highest volume of contracts. In FY 2023, the Forest Service spent over \$3 billion in contracts; of those contracts, more than \$1 billion, or 32 percent of total contracts, were considered green or sustainable. The Greening Fire Program is piloting new approaches, contract language, and best practices to promote green purchases for fire incidents.



The National Technology and Development Center tested seven different electric chainsaws to evaluate cutting performance, battery performance, noise, safety, cost, maintenance, user experience and other considerations. This is one example of how the agency can test and pilot new technology before deploying. Learn more in this [National Technology and Development Program report](#). USDA Forest Service photo.

Contracting and purchasing staff engagement, empowerment, and education are critical to success. Challenges exist around general knowledge of where to procure greener products, how to properly enter data into the acquisition database, and how to write sustainability clauses into contracts. Although various statutes and the Federal Acquisition Regulation require greener purchasing, not all staff understand how to research and acquire the most environmentally friendly products or to designate those purchases in reporting. Market research education, such as how to use the USDA BioPreferred® Catalogue or the U.S. General Services



Images of biomass feedstocks used and briquette products; (a) forest residues, (b) sawdust residue from sawmill, (c) wood chips from forest residues used in briquette production, and (d) briquetted biomass. USDA Forest Service photos.

Administration (GSA) Sustainable Facilities Tool (SFTool), can increase adoption. Training is also needed on methods of incorporating sustainable evaluation factors in solicitations and sustainable clauses in contracts. The Forest Service is currently “green” or performing to standard within the USDA Sustainability Scorecard but will need to sustain and improve focus in this area to maintain that rating. The agency’s standard operations, coupled with wildfire incident operations, provide a unique opportunity to utilize purchasing power and influence to help the broader Federal acquisition community become greener. Additionally, there are supply chain and logistical challenges for biomass market development for which the Forest Service can continue to support and develop solutions.

Active research, policy evaluations, and technological advances for emissions control help to address these concerns. For wood construction, sustainable supply chains and building codes are existing challenges but are being addressed with the growth of this sector. Wood biomass energy solutions that include technology to reduce particulate emissions are being piloted, which helps to advance the potential for large-scale wood-to-energy solutions. Thermal heating with wood is a time-tested solution and offers a local outlet for slash and other non-merchantable materials. Life cycle analysis, codes within standards organizations, and technology are all advancing in this area, providing a path to more confidence in green purchases.

Federal Green Procurement Preference Programs include [environmentally preferable \(WaterSense®, Safer Choice®, SmartWay, EPEAT®\), Energy Star®, BioPreferred®, non-ozone depleting, alternative fuels, and recovered material](#) programs.

OBJECTIVE 5 REDUCE CONSUMPTION OF WATER IN FACILITIES AND OPERATIONS

Forest Service lands provide the largest source of municipal water supply in the Nation. More than 180 million people rely on national forests for their drinking water. Water from forest lands also provides, maintains, and supports other ecological and societal services including the following: biological diversity; threatened and endangered species habitat; spawning and rearing habitat for sport and commercial fish species; and agricultural irrigation, navigation, and flood control. Because higher temperatures can result in a diminished water supply and overall stress on water infrastructure, climate change is a major threat to the water supply. As required by Executive Order 14057 and through the USDA Sustainability Strategy, this objective sets a benchmark for reduced water consumption by 2030. Increased water efficiency through the agency’s facilities and operations is an important step toward conserving the Nation’s finite freshwater supply and modeling the conservation ethic that drives Forest Service work.

By increasing water efficiency, reducing use habits, reusing potable water, and harvesting rainwater, the Forest Service can

reduce water consumption agencywide. However, the installation and upgrades required to retrofit existing water infrastructure can involve significant upfront cost and investment. Success stories and lessons learned from units across the agency will be imperative to allocate resources strategically to meet this objective.

OBJECTIVE 6 EVALUATE NEW TECHNOLOGIES AND APPROACHES FOR FEASIBILITY, ISSUES, AND BENEFITS

Renewable and clean energy as well as green product solutions are fast-growing sectors across the globe. While these solutions are promising, all new technologies must be evaluated through a risk management and feasibility lens in addition to an assessment of possible tradeoffs within timeframes of varying lengths. Pilot projects are one way to identify the potential of a green solution for broader adoption.

The development of green technologies and innovations moves quickly but requires adequate vetting before agency adoption. Staff agencywide can play a role in market research and pilot testing to ensure products and approaches are assessed before large-scale deployment. The Greening Fire Program is piloting many new technologies and approaches within incidents to determine if it is a best practice that can be applied more broadly agencywide. Microgrant programs also enable testing of green products, services, and approaches at low risk. The agency can develop mechanisms to solicit field-level input and experiences (as is done in the Sustainability Stories Portal) to share knowledge, issues, and benefits of new approaches. Contracting and procurement staff should be included in the evaluation of findings so that this information can be incorporated into sustainable acquisition solutions. Research and Development and the National Technology Development Program, for example, are internal organizational partners that can help develop and test technologies.



In 2022, the Forest Service began a zero-emission vehicle pilot program in Region 9, adding Ford F-150 Lightning trucks across three national forests in Region 9: Allegheny National Forest, Huron-Manistee National Forest, and White Mountain National Forest. The program is conducting initial requirements and performance testing. Before rolling out these vehicles more broadly, it is important to understand cold weather and range performance in rugged and remote environments. The F-150s in this testing are standard issue and can travel 230 miles per charge. USDA Forest Service photo.

GOAL 3

EDUCATE AND ENABLE EMPLOYEES

Greening Fire and Sustainable Operations team members meet with members of the National Renewable Energy Lab to gain understanding of new technologies and approaches for improving sustainable operations. USDA Forest Service photo.



Each of the approximately 34,000 Forest Service employees has a chance to contribute to the success of this strategy, which provides a unique opportunity for employees to lead from where they are, connect across geographic and positional boundaries, and improve workplace morale and the work environment. Educating and enabling agency employees will help ensure this strategy is guided by the agency's core values. Change needs to happen at all levels, from small, individual actions to big decisions that can be implemented collectively. This also ties into the agency mission: employees are at the core of caring for the land and serving the people. Employee support is essential in implementing best practices and new technologies of sustainable operations in day-to-day activities and larger projects.

Enabling and educating employees directly connects to Executive Order 14057 (Section 401, which calls out engaging, educating, and training the Federal workforce, and Section 403, which urges building external partnerships) and the Federal Sustainability Plan's goal of developing a "climate- and sustainability-focused workforce." The Forest Service Climate Action Tracker asks questions on sustainable operations, requiring that employees be familiar with this work. Education focuses on building knowledge of what sustainable operations work is, why it is important, and what steps each employee can take. Education also provides information on new technologies and approaches.

The greatest challenge facing this goal is the funding and capacity needed for employees to be able to implement and act on this strategy. Long-term investments are necessary. Employees may be resistant to change or to adopting new sustainable technologies and methods due to concerns about cost and feasibility. Through explicit statements of support, additional funding and capacity, and good training and communication strategies, these challenges are likely surmountable.

OBJECTIVE 1 INCREASE SUSTAINABLE OPERATIONS CAPACITY IN THE FIELD

Developing a robust sustainable operations program requires dedicated expertise and a skilled workforce. A large portion of this work requires a background in engineering, energy management, facilities management, or a similar field. These positions are in high demand across the organization. Building field capacity for this work can enable locally driven, informed decision making and helps support broader climate and sustainability work.

Historically, there has been little to no capacity for sustainable operations work in the agency. Hiring more staff may be challenging given budget constraints. Recently, sustainable operations positions in the agency were located in each region but many of those positions have been vacant for years. This presents an opportunity to place sustainable operations specialists directly in the field and enhance capacity at the field level where it is needed. Hiring one fully dedicated position per region or station is the minimum recommendation of the strategy team for this objective, but more staff will likely be required to fully implement and maintain this strategy in the long term. Sustainable operations work is largely field-based work and generally requires knowledge of local sites and buildings. Current and future sustainable operations work can be accomplished if these

challenges are overcome, and increasing capacity in this field can also reduce burdens on staff focused on other priorities. Creating new positions provides an opportunity for those interested in this work to make an impact.

OBJECTIVE 2 EXPAND INTERNAL COLLABORATION, EXTERNAL PARTNERSHIPS, AND COMMUNITIES OF PRACTICE

The Forest Service is a learning organization. Much of the agency's work is accomplished through valued partnerships, which provide a continuous learning and feedback loop. Sustainable operations work also benefits from the exchange of knowledge and shared benefits. Fostering stronger connections within and beyond the agency will increase capacity for sustainable operations work and the potential for other collaborative projects. Expanding internal collaboration and creating communities of practice encourages employees to exchange ideas and strategies about how to implement sustainable operations, which increases efficiency and innovation. External partnerships can help the agency accomplish goals without placing added strain on staff with existing portfolios. New and innovative public-private partnerships are needed to fully deploy this strategy. Exciting challenges await the agency in adjusting and creating new policies and processes to support this collaborative work.



The Region 5 Office partners with the Vallejo People's Garden to divert approximately 2,000 gallons of food waste per year by providing compost bins in all office kitchens and donating this material. USDA Forest Service photo.

OBJECTIVE 3**ENGAGE EMPLOYEES IN SUSTAINABILITY BEST PRACTICES AND NEW TECHNOLOGY ADOPTION THROUGH ONGOING COMMUNICATION, EDUCATION, AND TRAINING**

There is space for every employee in the implementation of this strategy. Individual day-to-day actions can have a significant impact. By strategically sharing information, best practices, and vetted technology options, the agency can meet its sustainable operations goals. To be successful in this endeavor, the agency must equip employees with the training and information needed to make a difference and empower them to act. Communication of best practices and technology must be simple and clear to encourage widespread implementation.

Challenges may include a lack of time and staff to prepare for and provide the communication materials, activities, education, and trainings. In addition, staff are already overloaded with required training and a heavy workload. Employees in the engagement process suggested that funding and time are needed for learning and development in this area. Strategic communication about sustainable operations is imperative. The agency also needs to use existing employee forums, such as Inside the Forest Service and AgLearn, to make this information easy to access and distribute. Engaging employees regularly and providing feedback forums will help the agency ensure employee input is included while working to create a sustainability-informed workforce.



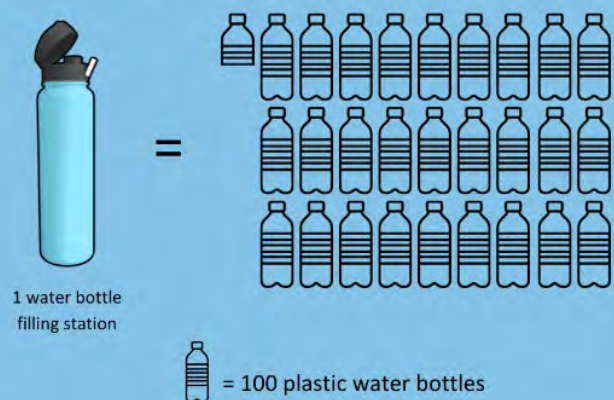
Greening Fire team ambassadors have found creative ways to recycle and reuse scrap fire hose. One example is a partnership with Hose to Habitat, a non-profit that uses scrap firehose to provide enrichment for endangered animals in captivity. USDA Forest Service photo.

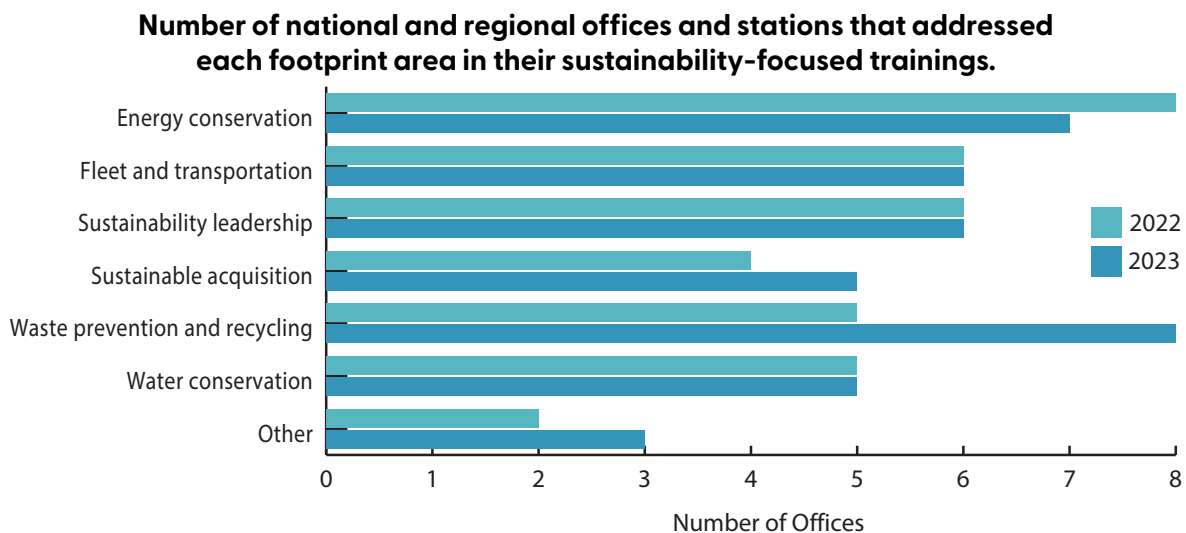
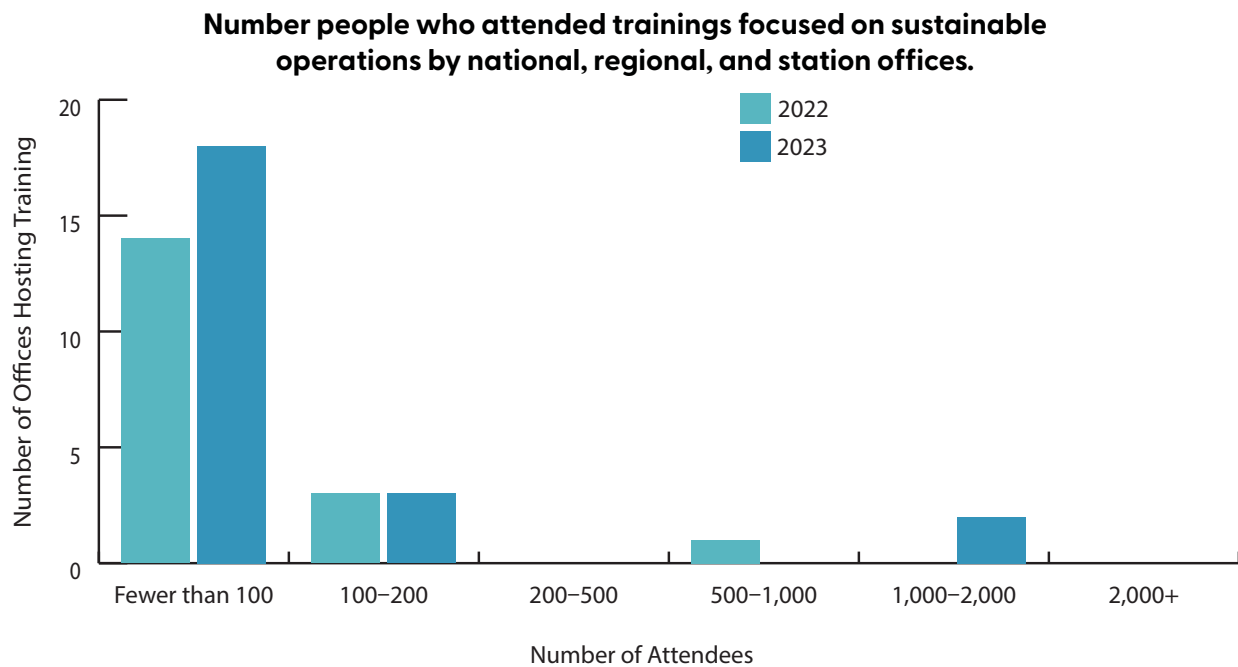
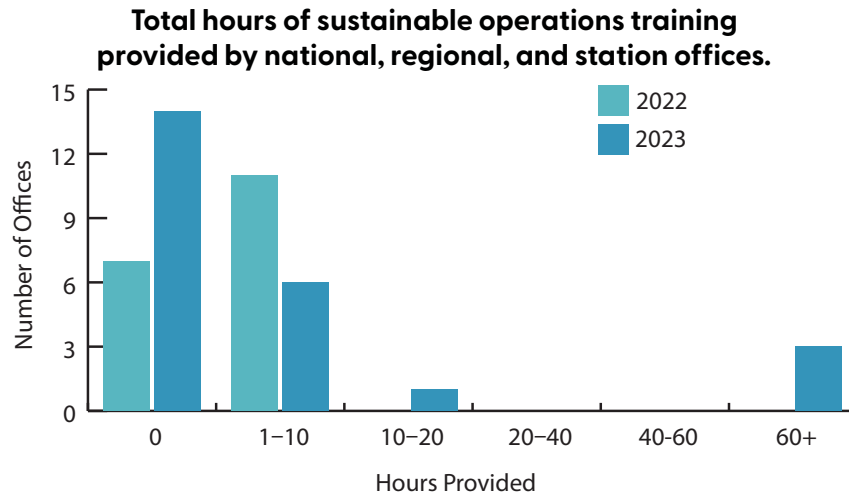
OBJECTIVE 4**RECOGNIZE EMPLOYEES FOR LEADERSHIP IN SUSTAINABLE OPERATIONS ACTIONS**

Employees already engage in many daily sustainable operations actions. Recognizing Forest Service employees for these contributions reinforces the value and importance of sustainability actions and encourages those recognized to continue doing good work. Recognition can also motivate others to follow the lead of those recognized. In economics, nudge theory suggests people can be nudged to change behavior and one powerful tool is comparison. Employees want to know if they are performing the same, better, or worse than their colleagues. They can nudge each other toward increased implementation and action of sustainable operations by recognizing proactive employees.

Employees and supervisors at every level must be familiar with sustainable operations in order to recognize meaningful work in this field. With the wide range of actions that can be considered sustainable operations, not every action may be outwardly recognizable as such. The agency has a unique opportunity to develop ways to recognize employees, such as through feature stories, callouts in Inside the Forest Service, or perhaps a new national awards category. These issues can be resolved during implementation. Recognition is critical to encourage sustainable operations efforts in others and promote awareness of different types of sustainable operations actions, from small changes in individual behavior to larger projects and sustainability initiatives.

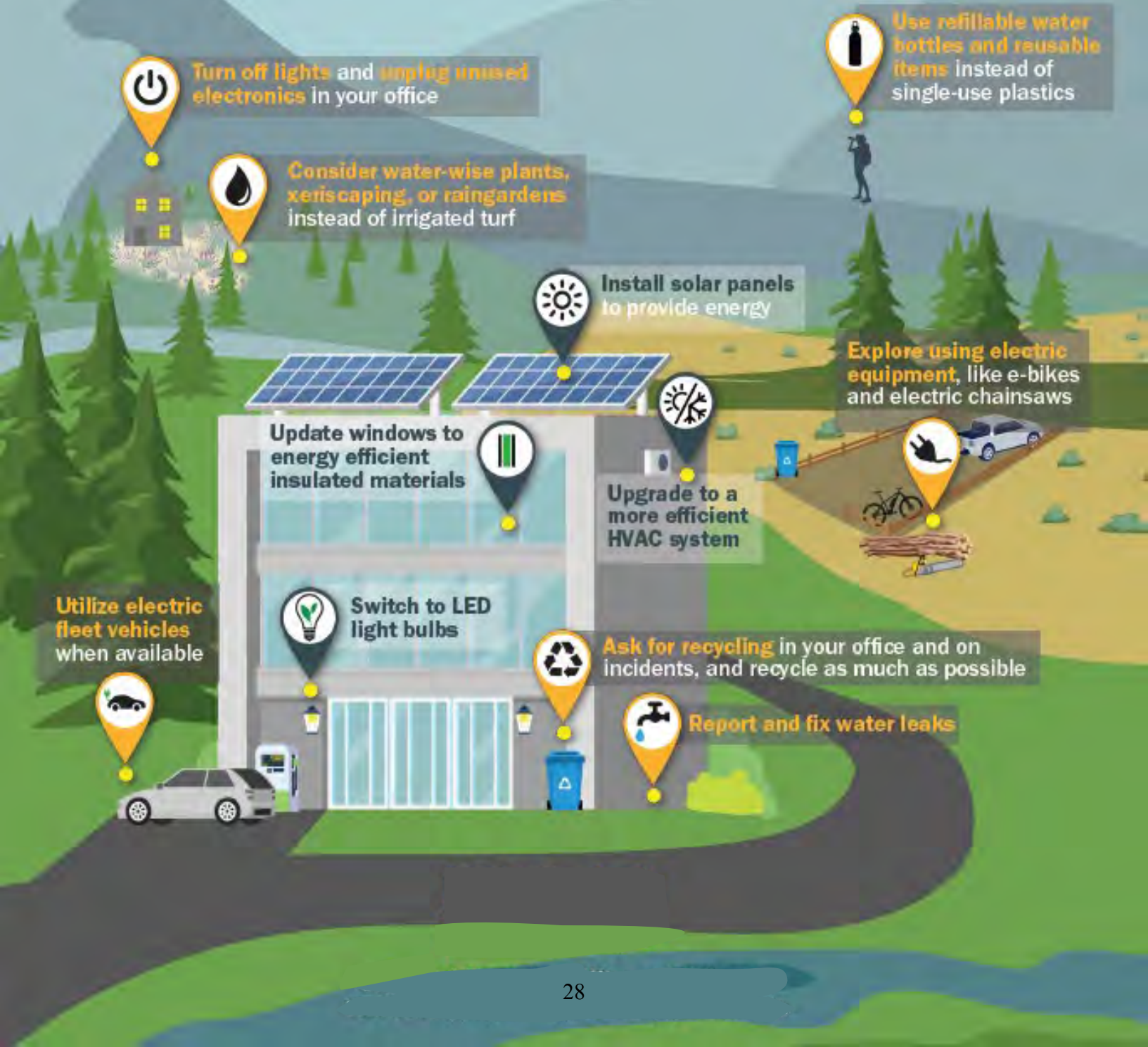
The National Microgrant Program funded four water bottle filling stations in FY2023, removing over 11,000 single use plastic bottles from our waste stream.



SUSTAINABLE OPERATIONS TRAINING**FISCAL YEAR 2022 FOREST SERVICE CLIMATE ACTION TRACKER DATA ON SUSTAINABLE OPERATIONS TRAINING.**

Everyday Sustainable Operations

A vigorous sustainable operations program is one way the Forest Service is reducing our contributions to the climate crisis and investing in a healthy financial future. Green teams and sustainability-minded employees across the Forest Service have been engaged in sustainable operations initiatives for decades; now we are building a broad strategy to build this work. Here are some of **the things we do** and **how you can help**.



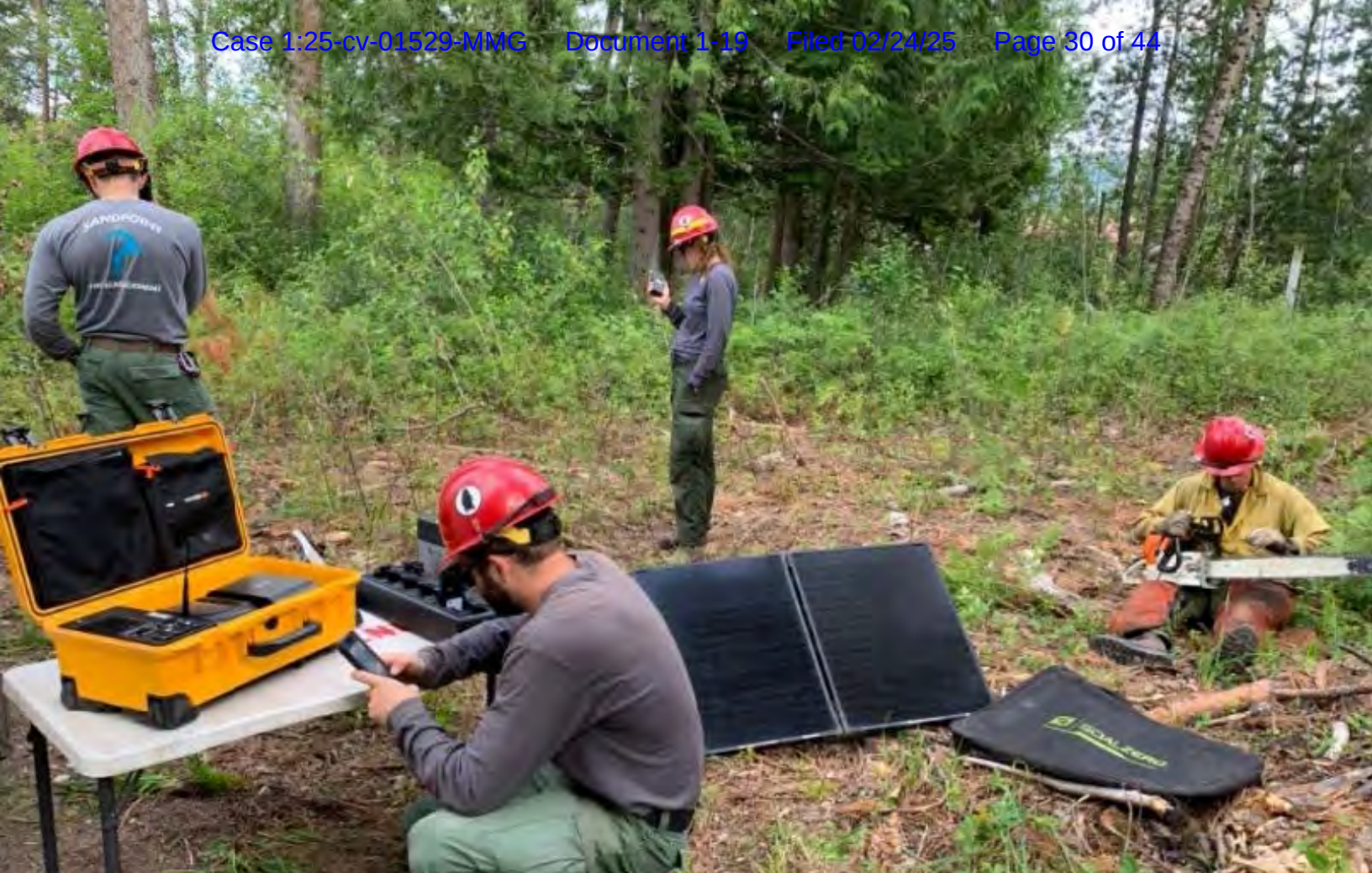
REQUIREMENTS FOR SUCCESS

Through the engagement and sensing process, employees identified essential components of a successful strategy. The goals and objectives of this strategy need to be practical, tangible, and realistic. Actions must be rooted in data and the collective expertise of the organization and fueled by passionate employees. Employees expressed that key commitments include:

- 1 leadership at all levels articulating that sustainability work is a priority and how it compliments other priorities,
- 2 additional workforce capacity and dedicated positions, and
- 3 budget for implementation.

Remote solar power used at an incident command post. USDA Forest Service photo.





Remote solar power can be used for remote operations. USDA Forest Service photo.

TRADEOFFS AND RISKS

The agency's ambitious strategy, while achievable, is not without tradeoffs and risks. Investment decisions will be based on science and data. Research needs will be identified to measure the feasibility and environmental impact of new technologies. When applicable, the agency can use life cycle assessments to understand products and technological impacts from production to disposal, and compare this with alternative solutions.

The Forest Service also needs to assess whether new, more sustainable technologies can fulfill agency needs while acknowledging potential safety risks associated with use of the new technology. The associated tradeoffs and risks may change over time as the technology improves. The implementation plan will be updated accordingly.

Additionally, the agency needs to understand the tradeoffs of sustainability work as it relates to employees. Surveys showed that, while excited about this work, many employees feel overwhelmed and concerned that without additional capacity, workloads will greatly increase. Employees also expressed concern that potential political changes may affect long-term investments in this work, which has tempered optimism with caution.

Sustainability initiatives often have many solutions. It is imperative that the agency understands the breadth and scope of options to allow for local flexibility in implementation.

Electric Vehicles Assessing Risks and Tradeoffs

Electric Vehicles (EVs) can help the agency reduce carbon emissions from gas and diesel but there are known environmental impacts of battery production and disposal. The agency is assessing the feasibility of different EV uses, including mileage ranges and the need for power and performance in different climates and conditions (e.g., cold weather, remote rugged terrain). In addition, the agency can identify plans for disposal of EVs and battery recycling plans.



CONNECTIONS TO OTHER AGENCY STRATEGIES AND PLANS

This strategy supports numerous ongoing efforts across the agency directly and indirectly. These strategic connections reinforce the importance of this work. For each of these important agency strategies and plans, discrete connections and opportunities have been identified to help support this work through the Sustainable Operations Strategy.

USDA STRATEGIC PLAN

Directly addresses cross-cutting theme of “addressing climate change via climate smart agriculture, forestry, and renewable energy.”

Provides pathways for the agency to deliver on Goals 1.3 (water), 1.4 (reduce greenhouse gas emissions), 3.1 (renewable energy), 3.2 (new markets), and 5.3 and 5.4 (green rural and Tribal economies).

FOREST SERVICE STRATEGIC PLAN

Supports goals of empowering employees, partnering with the public, and sustainably managing for healthy and resilient landscapes.

Provides new sustainable pathways to accomplish these goals.

CLIMATE ADAPTATION PLAN

Demonstrates commitment to reducing environmental impacts and greenhouse gas emissions, which mitigates agency contributions to climate change.

Provides opportunities to reduce risk and address climate vulnerabilities with new onsite renewable energy solutions.

WILDFIRE CRISIS STRATEGY

Addresses the mitigation of agency contributions to climate change that may exacerbate the wildfire crisis.

Reduces spending on energy, fuel, and waste disposal, as the agency increases the pace and scale of landscape treatments.

Supports the development of supply chains for biomass and wood products from restoration as well as risk reduction landscapes for construction, heating, and electricity.

EQUITY ACTION PLAN

Provides green business prospects for local suppliers and small businesses, including those that meet the small, disadvantaged business requirements.

Reduces impacts to low-income, minority, and socially vulnerable communities by reducing pollutants and waste in community landfills.

Provides opportunity to engage youth, low-income, minority, and socially vulnerable communities to improve sustainability through employment and partnership opportunities, which benefits all people.

Examples of some of the agency strategies and plans supported by the National Sustainable Operations Strategy. USDA Forest Service image.



REIMAGINE RECREATION

Models citizenship and conservation stewardship to and with the public.

Creates aesthetically pleasing alternatives to traditional infrastructure.

Reduces noise, light, and pollution impacts for the land and people served.

Provides green product solutions and best practices to reduce waste generated and disposed of at sites.

TRIBAL ACTION PLAN

Considers long-term and broad-scale impacts of operational choices.

Embraces a diverse set of values and knowledge around sustainability, many of which have long been present in Native and Indigenous cultures.

Creates new opportunities for collaboration, partnerships, and small businesses.

Offers the opportunity for youth participation and internships.

RISK MANAGEMENT

Supports the understanding of core functional needs within the organization, as well as sustainability culture and doctrine.

Reduces hazards associated with pollutants and waste byproducts.

Supports risk reduction for operational assets due to various vulnerabilities (e.g., onsite renewables reduce risk of power outage to mission-critical facilities).

	REDUCE GREENHOUSE GAS EMISSIONS					REDUCE CONSUMPTION AND SHIFT TO SUSTAINABLE PRODUCTS AND SERVICES						EDUCATE AND ENABLE EMPLOYEES			
STRATEGIC CONNECTIONS	1a	1b	1c	1d	1e	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d
FOREST SERVICE STRATEGIC PLAN	Forthcoming														
USDA STRATEGIC PLAN	•	•	•	•				•	•	•	•		•		
CLIMATE ADAPTATION PLAN	•	•	•	•	•	•	•	•	•	•	•	•		•	
WILDFIRE CRISIS STRATEGY	•	•	•			•		•						•	
EQUITY ACTION PLAN	•					•			•				•	•	
REIMAGINE RECREATION				•		•				•			•	•	
TRIBAL ACTION PLAN				•					•				•	•	

PROCESS

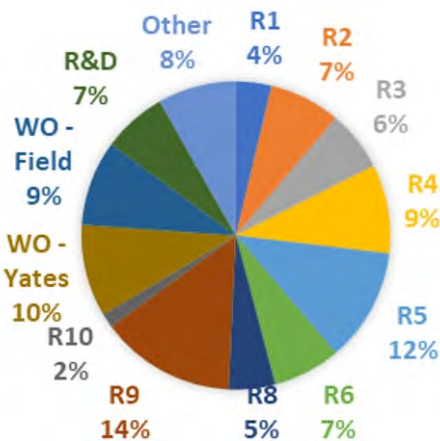
EMPLOYEE ENGAGEMENT

Employee engagement and feedback were critical to the formation of this strategy and will be essential to its successful implementation. A core team, consisting of approximately 20 staff from across deputy areas, position types, and geographies, was assembled to guide the process. This team met weekly for nearly 6 months to scope and support the development of the strategy, including conducting a horizon scanning analysis, strengths, weaknesses, opportunities and threats (SWOT) analysis, and an analysis addressing barriers, challenges, and opportunities.

The core team deployed two primary engagement mechanisms to solicit broader employee feedback: webinars and a survey. Three 1-hour virtual employee engagement webinar sessions were offered to any employee who wanted to participate. Each engagement consisted of a briefing on sustainable operations and the strategy, live polling, and time for discussion. An online survey was also created to provide a forum for more robust and detailed feedback. The engagements asked employees about the proposed vision, values, goals, and objectives of the strategy, which gauged interest and gave participants space to voice concerns or suggestions. To reach the maximum number of employees, these engagements were advertised through Inside the Forest Service and various email listservs. In addition to these engagements, core team members also brought forward feedback and concerns elevated in their personal and professional networks.

The following summary includes feedback from the survey and engagement sessions.

PERMANENT DUTY STATION AFFILIATION



Participation distribution from employee engagements.

ATTENDEES

In total, 385 employees from across the agency participated, representing every region (at all levels), research stations, and many Washington Office deputy staff areas (State, Private and Tribal Forestry; Research and Development; Chief Financial Officer; Business Operations, etc.). Employees working remotely as well as those in the field and the office were all represented.

PERCEPTIONS AND FEEDBACK

Most participants believed making Forest Service operations more sustainable is important. Most employees had at least heard of sustainable operations or felt knowledgeable about it, although a small percentage did indicate that this information was completely new to them. Most participants considered all three proposed goals “very” or “extremely” important to include in the strategy. When asked how they felt about the strategy overall, employees overwhelmingly felt “hopeful” or otherwise

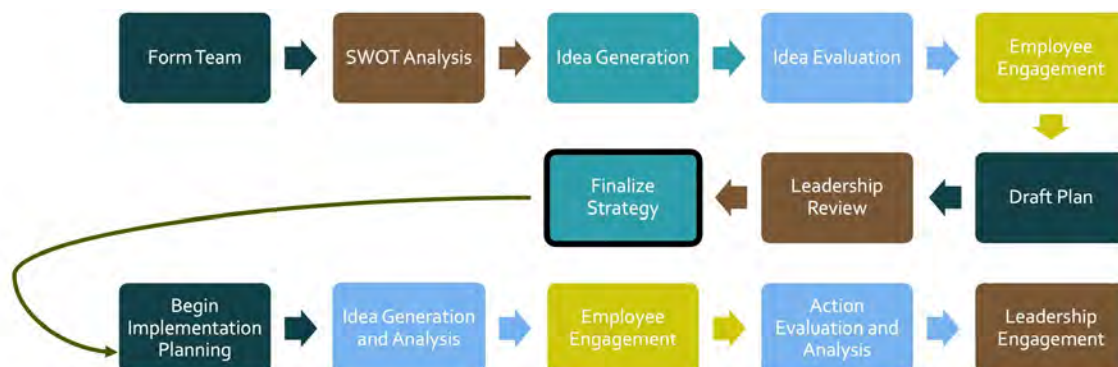
optimistic about the effort, though some indicated feeling “cautious” or “overwhelmed.”

Employees also identified challenges to implementing sustainable operations, such as a lack of funding, a lack of leadership intent and guidance especially at the regional office or forest level, a lack of clear roles for

implementation, and concern

around electric vehicle adoption and life cycles. In addition, employees flagged that the term “net zero” did not resonate well with them; while it is something to strive toward, it is likely unachievable.

When asked about what was missing, many employees provided feedback on specific actions they would like to see in the implementation plan. This input will be incorporated as the implementation plan is developed.



THE PATH TO IMPLEMENTATION

This document outlines the vision, values, goals, and objectives of the Sustainable Operations Strategy. An implementation plan, which is under development in spring 2024, will be paired with this strategy and will outline the specific action items needed to accomplish agency goals and objectives. Although action items have not been explicitly outlined in this document, through engagement sessions and survey feedback the core team and Forest Service employees have proposed numerous action item ideas that could help the agency achieve the goals and objectives of this strategy. The implementation team will evaluate these and other similar types of actions against the values, goals and objectives of the strategy to determine if they should be included in the priority action plan for implementation. These will include performance measures, timeframes for implementation, and anticipated outcomes.

NEXT STEPS

A companion implementation plan will designate specific actions and anticipated outcomes for varying timeframes. This strategy will use a data-driven approach for investment in implementation and will prioritize the actions that have the largest return on investment, highest likelihood of success, and greatest impact in reducing the agency's contributions to climate change.

Recyclables diverted from the landfill on Jack Fire, OR. USDA Forest Service photo by Phil Torchio.



CONCLUSION

The Sustainable Operations Strategy supports the Forest Service mission, helps the agency meet Federal requirements as well as public and employee expectations, and sets up the agency for long-term cost savings and greenhouse gas emissions reductions. While this strategy is ambitious, it is also doable. The strategy is good business and helps the Forest Service continue to be a careful steward of public resources.

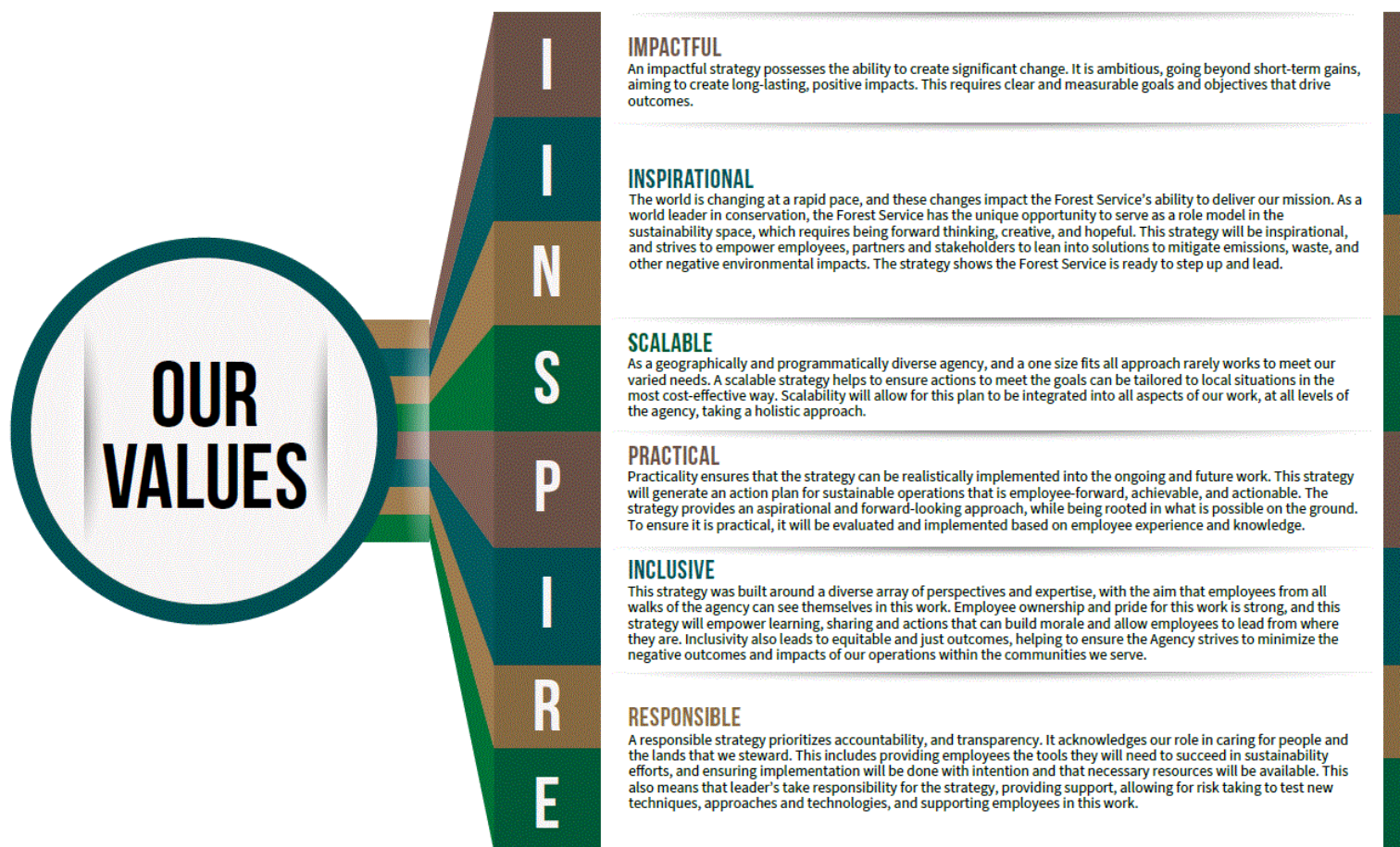
ACKNOWLEDGMENTS

Thank you to the cross-deputy core team that spent countless hours brainstorming, sensing, thinking critically and creatively, groundtruthing, researching, writing and more! Thank you to Office of Sustainability and Climate leadership, Chris Swanston and Dixie Porter, for supporting this work. Thank you to the deputy chief areas and supervisors that nominated and supported core team members. And finally, thank you to all of the employees who have contributed to the development of this strategy as well as sustainability efforts and initiatives!









The National Sustainable Operations Strategy core team included: Jennifer Hayes (lead), Maya Bhadury, Jessica Haas, Melissa Taggart, Isabel Dawson, Kristin Armstrong, Chris Farley, Katelyn Ulmer, Jeff Loomis, Darren Lemon, Sarah LaPlante, Sharon Gamble, Carol Moritz, Vicki Eitemiller, Renee Jewell, Kelly Jaramillo, Chuck Ruhsenberger, Lauren Wilmert, Derek Darter, and Emilie Lang.

Firefighters refill reusable jugs at a mobile water treatment system rig. USDA Forest Service photo by Kelly Jaramillo.








APPENDIX 1:**SUSTAINABLE OPERATIONS STRATEGY GUIDING VALUES
(IN ADDITION TO AGENCY CORE VALUES)**

APPENDIX 2:
EXECUTIVE ORDER 14057 TARGETS CROSSWALK

EO14057 Requirements x Forest Service Sustainable Operations Strategy	 Reduce Greenhouse Gas Emissions					 Reduce Consumption and Shift to Sustainable Products and Services						 Educate and Enable Employees			
	1a	1b	1c	1d	1e	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d
 65% reduction of overall GHG ¹ emissions by 2030	★	★	★	★	★	★	★	★	★		★	★	★	★	★
 100% ZEV ² acquisitions by 2035				★			★		★		★	★		★	
 100% CFE ³ by 2030			★								★	★		★	
 Net-zero procurement by 2050						★	★		★		★	★		★	
 50% building emissions reduction by 2032	★	★	★	★	★	★		★	★	★	★				

¹ Greenhouse gas, ² Zero emissions vehicles, ³ Carbon pollution-free electricity

EO14057 Requirements	Forest Service FY 2022–2023 Performance	Remaining Difference
 65% reduction of overall GHG emissions by 2030 <i>(from 2008 baseline)</i>	3.8% 2008 agency baseline: 263,749 MT CO ₂ e ¹ FY 2023 emissions: 253,796 MT CO ₂ e	61.2% or 171,437 MT CO₂e
 100% ZEV acquisitions by 2035	.25% FY 2023: 2 of the 806 fleet vehicles purchased were ZEV (total ZEV in fleet = 35)	99.75%
 100% CFE by 2030	44%	56%
 Net-zero procurement by 2050 (Buy Clean)	39.6%	60.4%
 50% building emissions reduction by 2032	<i>Measure pending</i> In FY 2023, buildings accounted for more than half of agency operational emissions.	n/a

¹ Metric tons of carbon dioxide equivalent

ADDITIONAL RESOURCES:

- [Executive Order 14057: Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability](#)
- [USDA Strategic Plan Fiscal Years 2022-2026](#)
- [Guiding Principles for Sustainable Federal Buildings and Associated Instructions](#)
- [The Paris Climate Agreement at the United Nations Climate Change Conference](#)
- [The Fifth National Climate Assessment](#)
- [Implementing Instructions for Executive Order 13834, Efficient Federal Operations](#)
- [Waste as an environmental justice issue:](#)
 - [WE ACT for Environmental Justice](#)
 - [Green America](#)
 - [National Waste and Recycling Association](#)
 - [Environmental and Energy Study Institute](#)
- [Waste and its Contribution to Climate Change](#)
- [Circular Economy Principles: Eliminate Waste and Pollution](#)
- [U.S. Environmental Protection Agency: What is a Circular Economy?](#)
- [Ellen MacArthur Foundation: What is a Circular Economy?](#)
- [U.S. Environmental Protection Agency: Climate Change Impacts on Freshwater Resources](#)
- [U.S. Energy Information Administration: Biomass and the Environment](#)
- [USDA Forest Service Research and Development: Bioenergy and Biomass](#)
- [USDA Regional Biomass Research Centers: Agricultural Research Service](#)
- [Fifth National Climate Assessment, Chapter 11: Agriculture, Food Systems, and Rural Communities](#)
- [Executive Order on Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability](#)
- [USDA Forest Service Sustainable Operations](#)
- [News Article: USDA Forest Service Testing Ford F-150 Lightning Electric Pickups](#)
- [Office of the Federal Chief Sustainability Officer: 100% Zero-Emission Vehicle Acquisitions by 2035](#)
- [The Butterfly Diagram: Visualizing the Circular Economy](#)

Visitors fishing at Spruce Knob Lake,
Monongahela National Forest,
Randolph County, WV. USDA Forest
Service photo by Kelly Bridges.



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Careers		Privacy Policy			No FEAR Act Data	
Fraud, Waste, and Abuse Hotline		Non-Discrimination Statement			Whistleblower Protection Coordinator	
		USDA Anti-Harassment Policy				